

Groundwater Exceedances Hunters Point Naval Shipyard San Francisco, California

June 5 2014 BCT Meeting Tony Konzen, P.G., Project Manager Contracted Support for Navy BRAC

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What Are Groundwater RGs and TLs?



Analyte-specific and location-specific numerical criteria for groundwater, as specified in HPNS CERCLA documents

- RGs: Approved in RODs
- TLs: Based on protection of the environment (i.e., surface water quality)

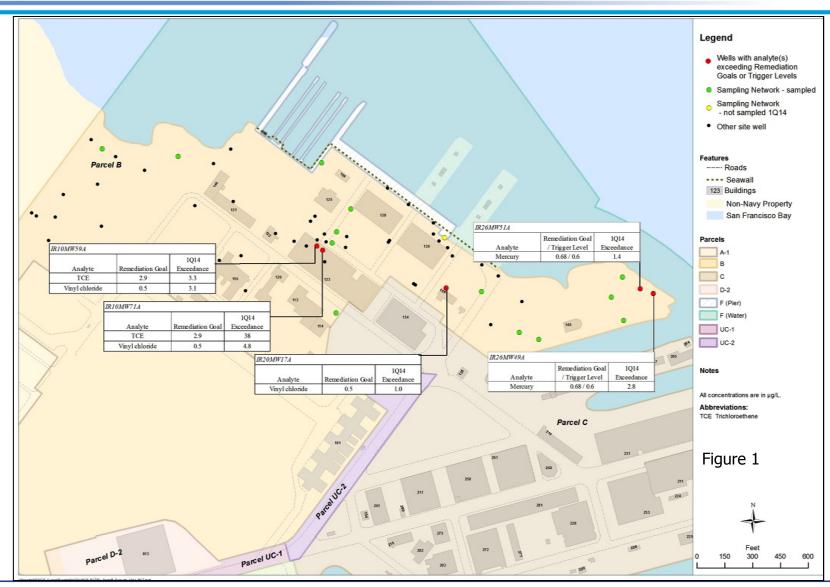
Exceedance Reporting



- 1. Exceedance memoranda following each semiannual sampling event (as soon as validated data are available and reviewed)
- 2. Semiannual groundwater monitoring reports (tables, figures, and text discussion)

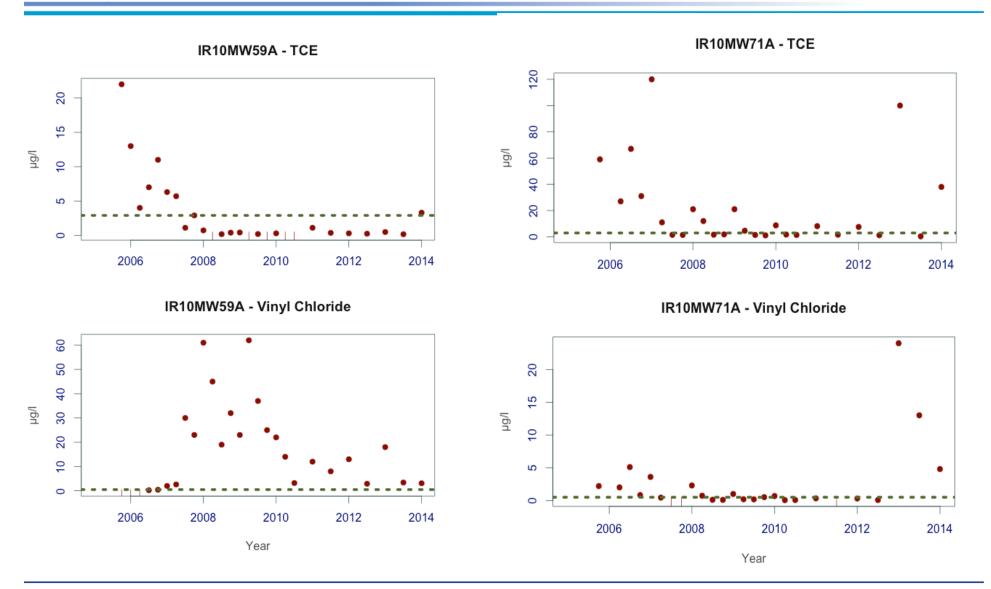
Parcel B 1Q2014 Groundwater Sampling Exceedances





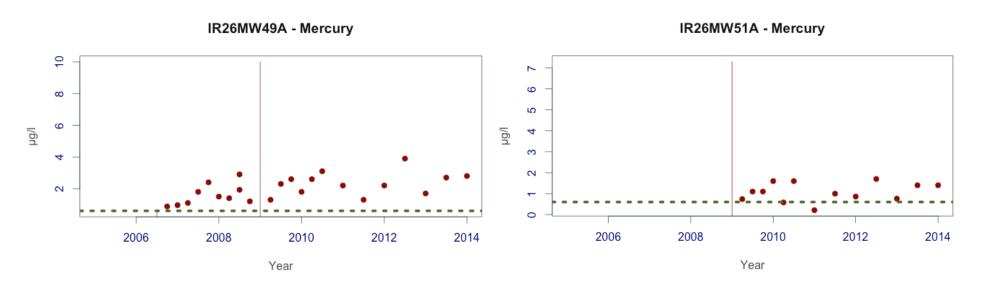
Well-Analyte Plots for Parcel B Exceedance Wells

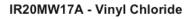


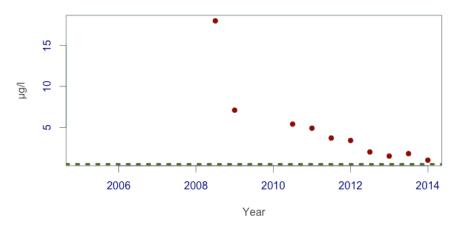


Well-Analyte Plots for Parcel B Exceedance Wells









Parcel B Exceedances

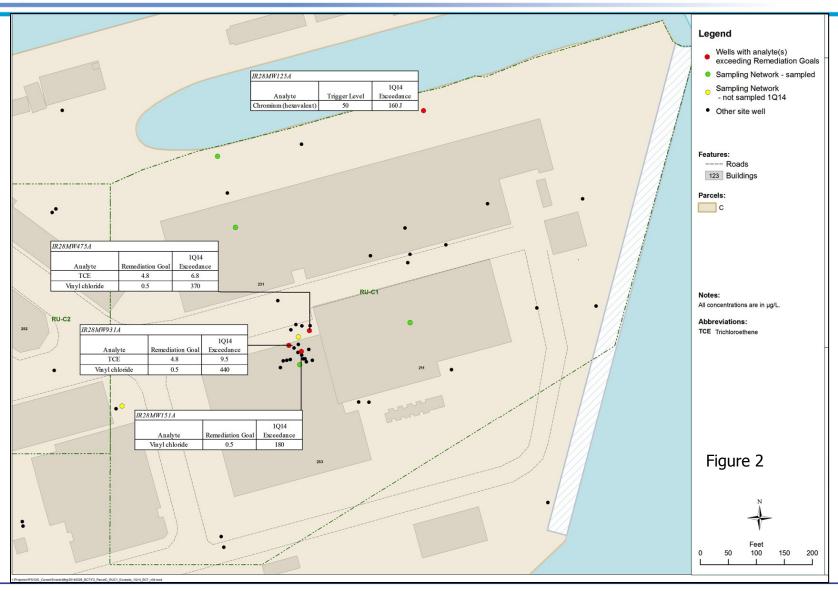


- 17 of 18 wells with RGs/TLs sampled in 1Q2014 (IR24MW07A not sampled because decommissioned)
- 5 wells (7 analytical results) had exceedances*:
 - Metals: mercury
 - VOCs: TCE, vinyl chloride
- Remedial action to address VOC groundwater contamination is ongoing
- To collect more information on residual mercury transport in groundwater, additional characterization and a mass flux evaluation for mercury will be performed

^{*}Last year, IR10MW61A, IR10MW13A1 also had vinyl chloride exceedances but not this year. Four (4) additional wells were sampled in this area versus last year.

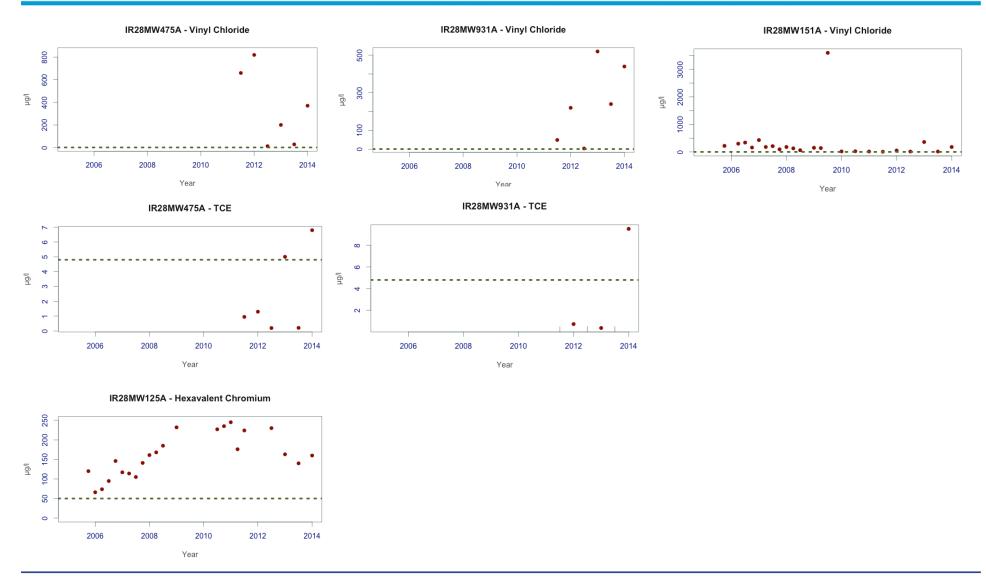


Parcel C, RU-C1 1Q2014 Exceedances



Well-Analyte Plots for Parcel C, RU-C1 Exceedance Wells





Parcel C, RU-C1 Exceedances

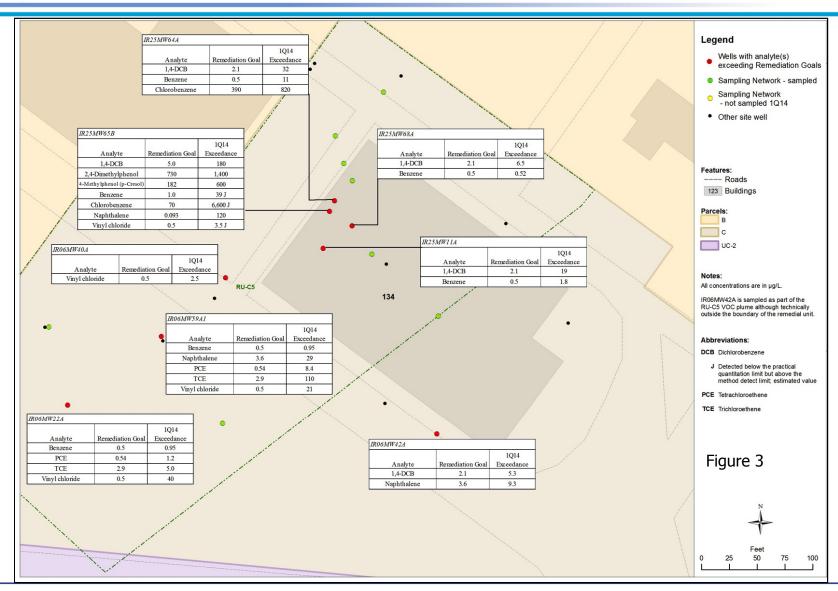


- 7 of 8 wells with RGs/TL sampled in 1Q2014 (IR28MW221B not sampled because of trenching)
- 4 wells (6 analytical results) had exceedances*:
 - VOCs: TCE and vinyl chloride
 - Hex Chrome
- Remedial action to address groundwater contamination is ongoing in the same footprint

^{*}Fourteen (14) fewer wells sampled in this area versus last year, but same 3 wells had exceedances last year (14 wells/21 analytes in 1Q2013 had exceedances)

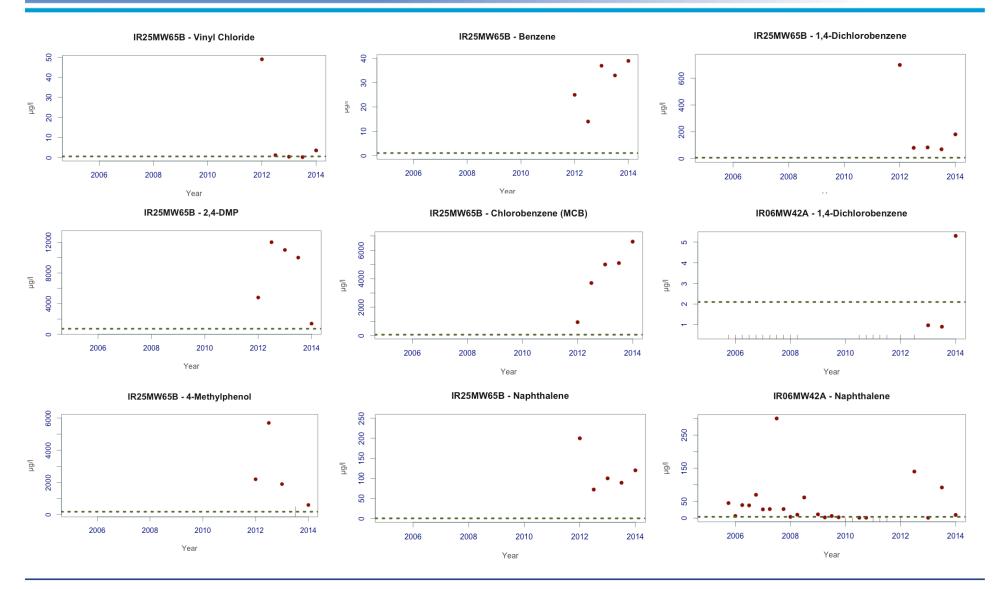
Parcel C, RU-C5 1Q2014 Exceedances





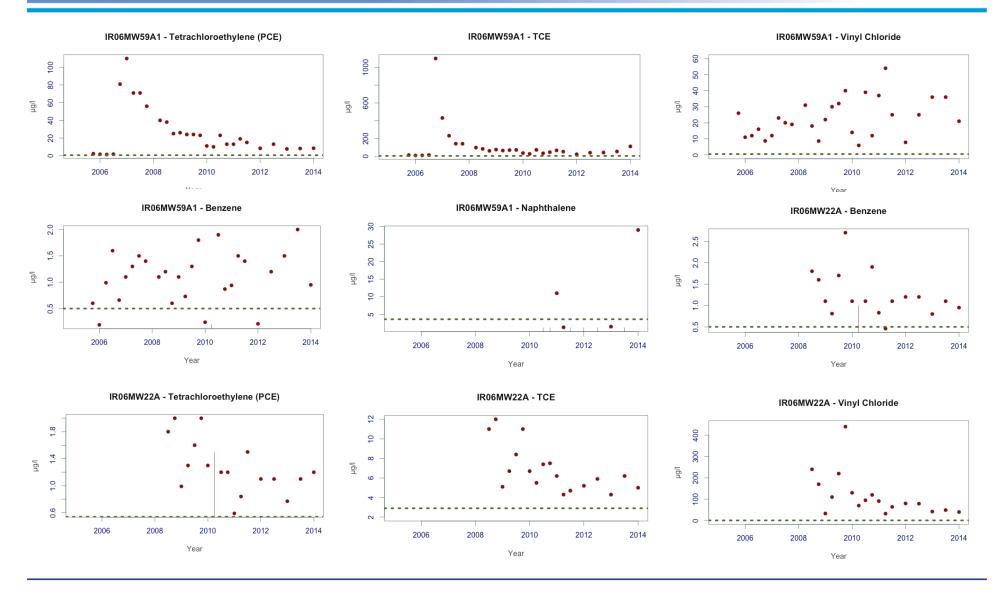
Well-Analyte Plots for Parcel C, RU-C5 Exceedance Wells





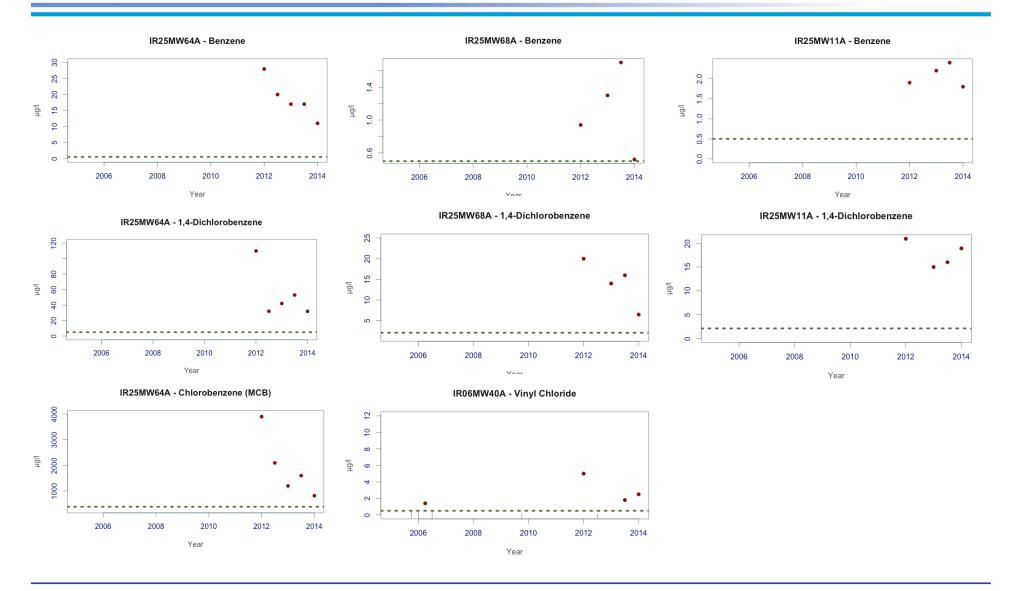
Well-Analyte Plots for Parcel C, RU-C5 Exceedance Wells





Well-Analyte Plots for Parcel C, RU-C5 Exceedance Wells





Parcel C, RU-C5 Exceedances

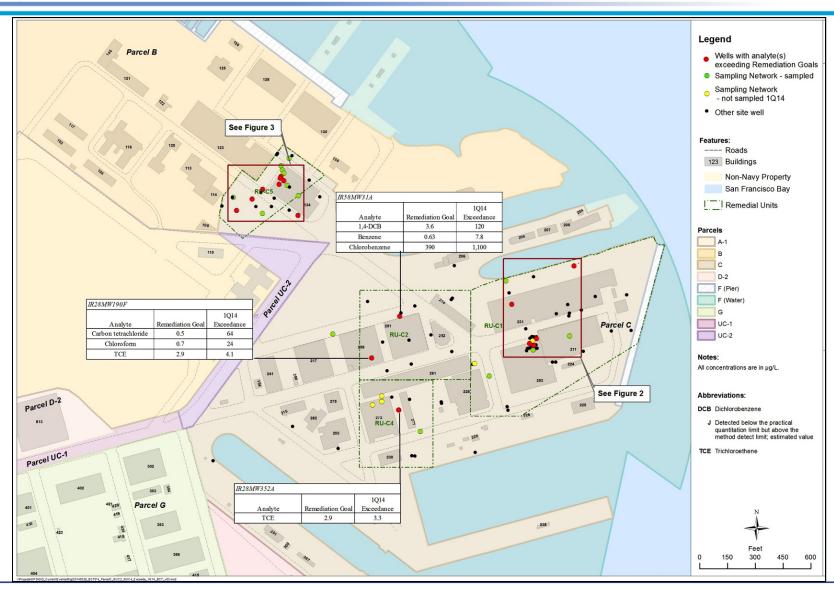


- All 15 wells with RGs sampled in 1Q2014
- 8 wells (26 analytical results) had exceedances*:
 - VOCs: benzene; chlorobenzene; 1,4-dichlorobenzene;
 2,4-dimethylphenol; 4-methylphenol; naphthalene; PCE; TCE; vinyl chloride
- Remedial action to address groundwater contamination is ongoing

^{*}Two (2) wells that had exceedances last year have been decommissioned (IR25MW62A, IR25MW62B). One well that had an exceedance for arsenic last year had no exceedance this year (IR25MW66B).

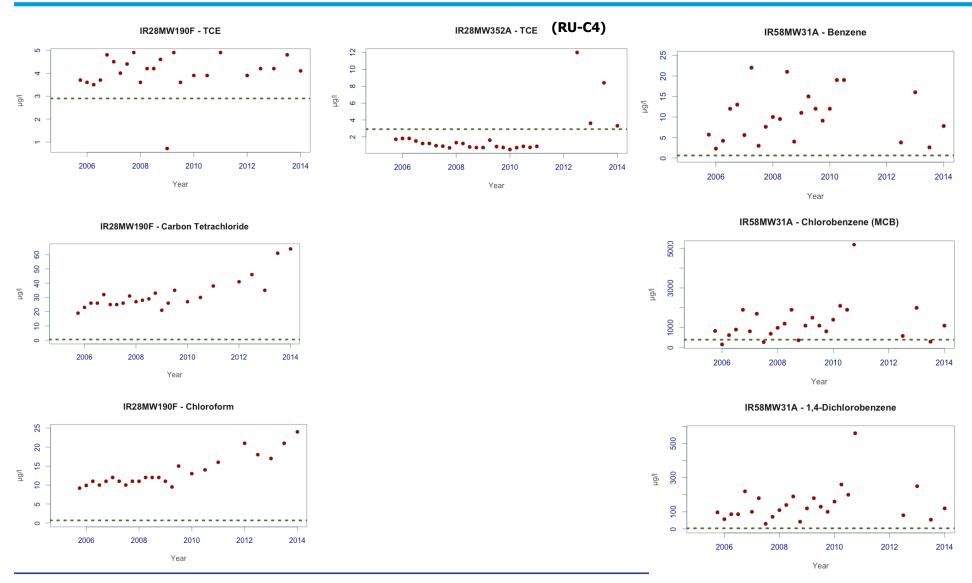
Parcel C, RU-C2/C4 Exceedances





Well-Analyte Plots for Parcel C, RU-C2/C4 Exceedance Wells





Parcel C, RU-C2 Exceedances



- All 3 wells with RGs sampled in 1Q2014
- Total of 67 RGs for these wells (no TLs applicable to the current BGMP)
- 2 wells (6 analytical results) had exceedances*:
 - VOCs: 1,4-dichlorobenzene; benzene; carbon tetrachloride; chlorobenzene; chloroform; and TCE
- Remedial action to address groundwater contamination is ongoing

^{*}Same wells had same exceedances last year, except last year IR58MW31A also exceeded for vinyl chloride.

Parcel C, RU-C4 Exceedances

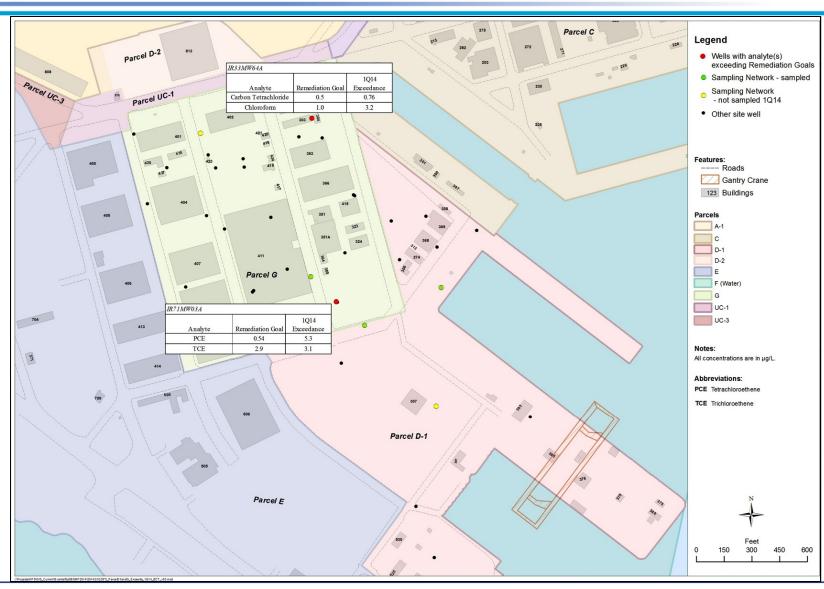


- 2 of 5 wells with RGs sampled in 1Q2014 (IR28MW934A, IR28MW407, IR28MW211F inaccessible because of remedial action, well capped and pump removed temporarily)
- 1 well (one analytical result) had exceedance*:
 - VOCs: TCE (slight exceedance)
- Remedial action to address groundwater contamination is ongoing

*Same well (IR28MW352A) had same exceedance last year.

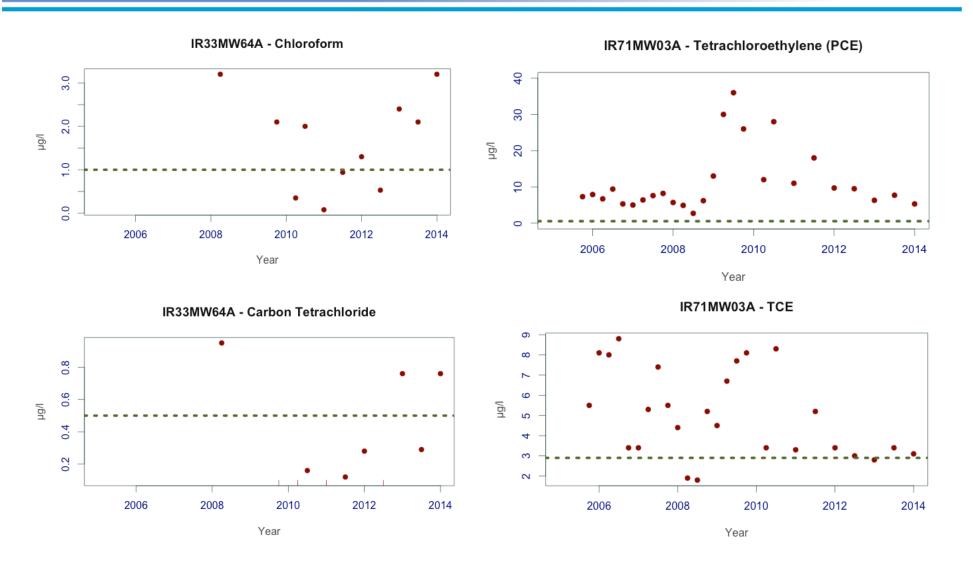


Parcels G & D-1 1Q2014 Sampling Exceedances



Well-Analyte Plots for Parcel G Exceedance Wells





Parcel G Exceedances



- 3 of 4 wells with RGs sampled in 1Q2014 (IR09MW07A not sampled, biennial frequency)
- 2 wells (4 analytical results) had exceedances*:
 - VOCs: carbon tetrachloride, chloroform, PCE, TCE
- A groundwater treatability study (ZVI injection) was completed in 2008 at IR-33 and IR-71 and successfully reduced groundwater concentrations to below RGs in all but two wells. Remedial action (durable cover) has been completed.

^{*}Same 2 wells (IR33MW64A, IR71MW03A) had same exceedances last year, although IR71MW03A additionally exceeded for TCE this year. IR09MW07A did not have an exceedance the last time it was sampled in (1Q2013)

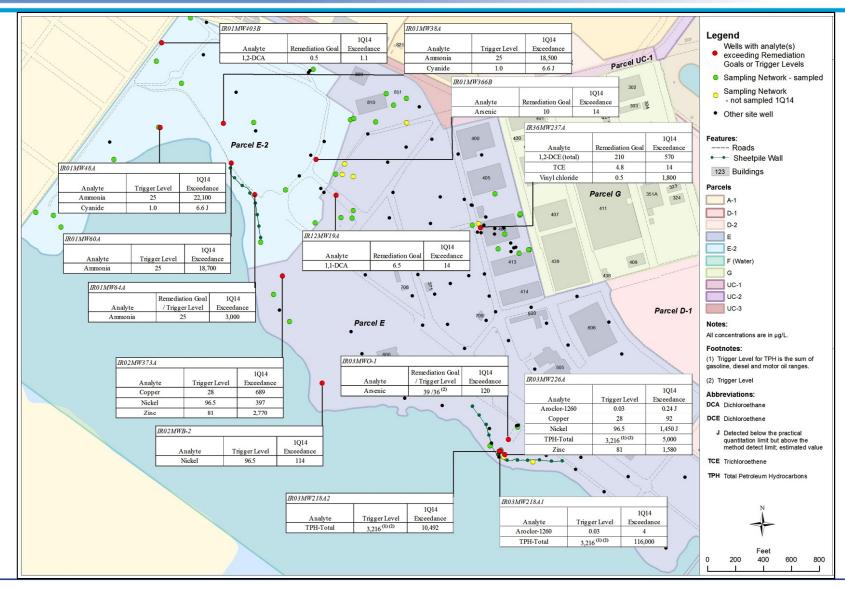
Parcel D-1 Exceedances



- 2 of 4 wells with RGs/TLs sampled in 1Q2014 (IR17MW13A, IR55MW02A inaccessible because of piles)
- No exceedances (none last year also)
- A groundwater treatability study (ZVI injection) was completed in 2008 at IR-33 and IR-71 and successfully reduced groundwater concentrations to below RGs/TLs in all wells.

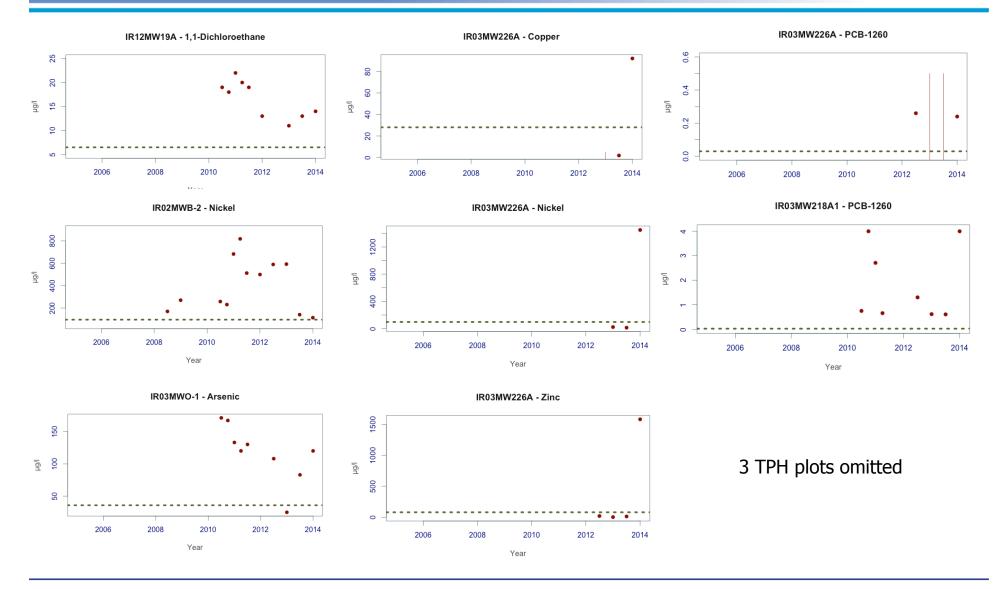
Parcels E & E-2 1Q2014 Exceedances





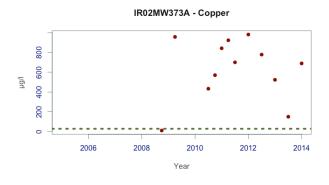
Well-Analyte Plots for Parcel E Exceedance Wells

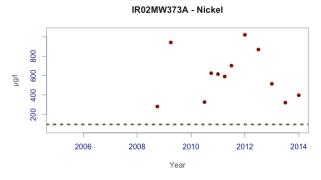


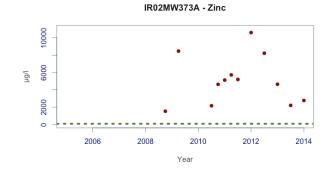


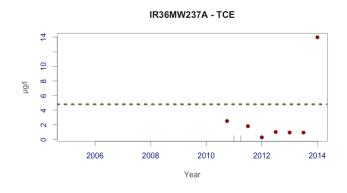
Well-Analyte Plots for Parcel E Exceedance Wells

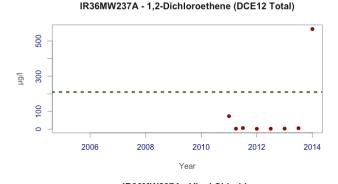


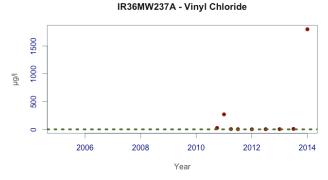












Parcel E Exceedances

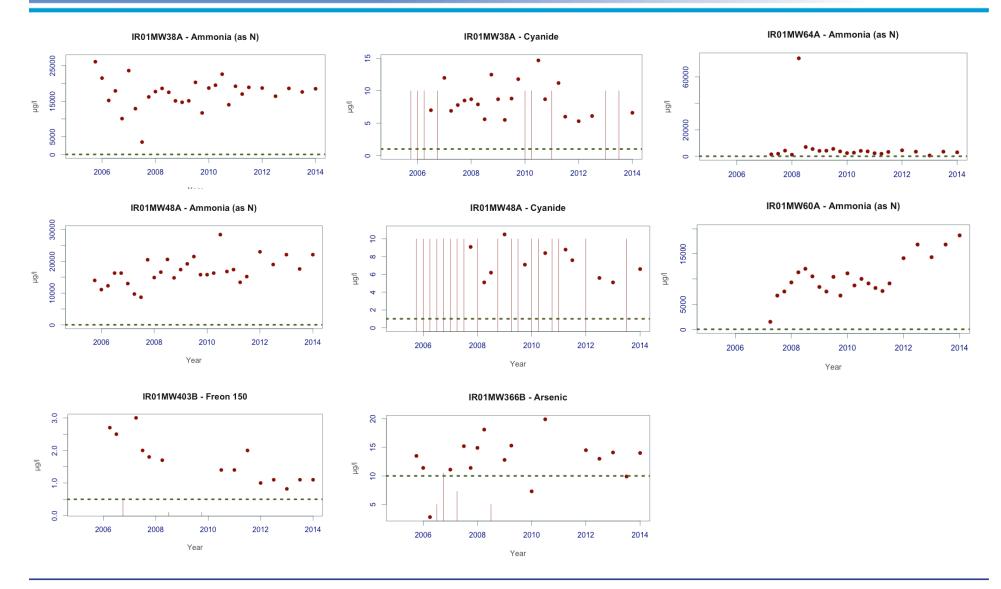


- 31 of 38 wells with RGs/TLs sampled in 1Q2014 (IR02MWB-2, IR02MW369A, IR02MWO-2, IR04MW39A, IR12MW14A, IR12MW45A, IR12MW46A inaccessible because of well issues or buried)
- 8 wells (17 analytical results) had exceedances*:
 - Metals: arsenic, copper, nickel, zinc
 - Other: 1,1-dichloroethane, 1,2-dichloroethene,
 Aroclor-1260, TCE, TPH, vinyl chloride
- Thermal treatment currently underway at IR-03

^{*}Last year 37 wells sampled. Five (5) wells and 9 results exceeded.

Well-Analyte Plots for Parcel E-2 Exceedance Wells





Parcel E-2 Exceedances



- All 13 wells with RGs/TLs sampled in 1Q2014
- 6 wells (8 analytical results) had exceedances:

VOCs: 1,2-dichloroethane

Metals: arsenic

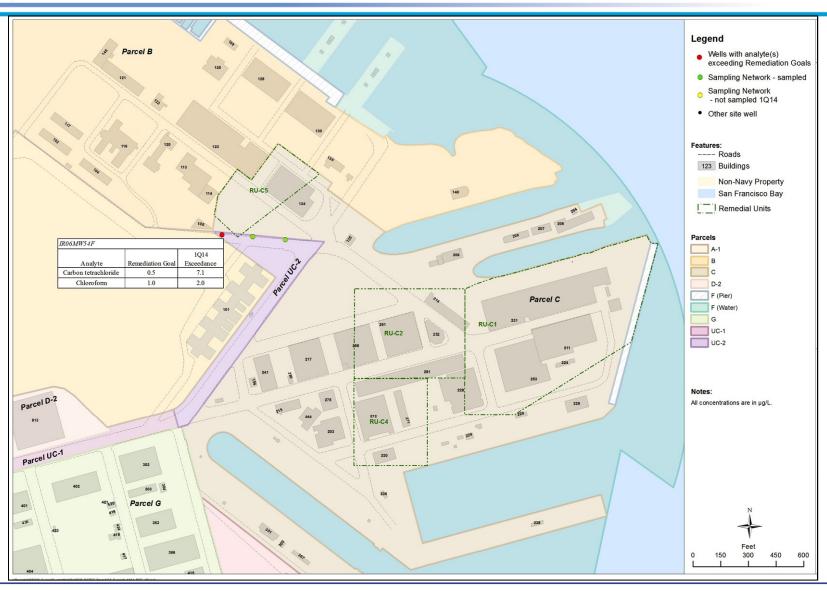
Other: ammonia, cyanide

Remedial action in Parcel E-2 has not begun

^{*}Last year the same wells had the same exceedances, although IR01MW38A also exceeded for cyanide this year.

Parcel UC-2 1Q2014 Groundwater Sampling Exceedances

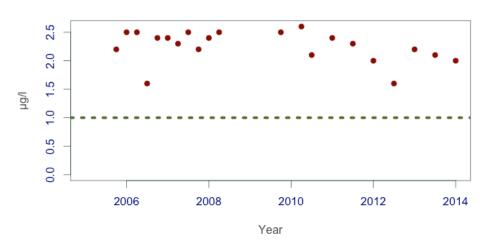




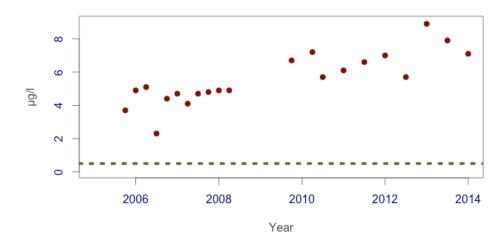




IR06MW54F - Chloroform



IR06MW54F - Carbon Tetrachloride



Parcel UC-2 Exceedance Wells



- All three wells with RGs sampled in 1Q2014
- 1 well (two analytes) had exceedances*:
 - carbon tetrachloride; chloroform
- Monitored Natural Attenuation (MNA) is the ROD-specified groundwater remedial action.

^{*}Same well had the same exceedances as last year (results slightly lower for each analyte this year).

Questions?



